

Data Links Discoverer To Mystery

Missing Capsule Could Be Satellite Now in Polar Orbit

The mysterious "Russian" satellite that has been puzzling United States officials may turn out to be one that was launched by this country.

There are strong indications it might be the Discoverer VIII capsule sent aloft by the Air Force last Nov. 20 although the Pentagon says this isn't very likely.

This is what makes it look suspiciously like this possibility, however:

- The Discoverer VIII capsule was never recovered but radio signals indicated it separated from the launching rocket. The Air Force says it has no way of telling if the unit came back to earth or is still in orbit.

- The orbit of the mystery satellite is practically the same as the one that the second stage of the Discoverer VIII had when it was launched. This would be expected if the capsule separated and the retro-rocket that was to bring it back to earth failed to fire. It would have been an extremely remarkable coincidence, on the other hand, if two separately launched satellites had achieved such similar orbits.

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Comparison of Orbits

Here is how the orbits compare:

The mystery satellite is circling the earth in a near-polar orbit that passes over the equator at an angle of 79 degrees. Its maximum altitude is 1074 miles, its minimum 134, and it goes around once every 104.5 minutes, the Air Force reports.

The second stage of Discoverer VIII is also in a near-polar orbit that passes over the equator at an angle of 80.7 degrees. When launched, its maximum altitude was "about" 1000 miles, its minimum 120, and the time for one trip around the earth was 103 minutes.

Since the launching, the orbit of the second stage has come closer to the earth due to the drag of the slight amount of gas present at these high altitudes. Since the capsule is much smaller and more dense, it would be expected to come down much more slowly.

Possible Explanation

The only argument against this possible explanation is the Air Force's statement that the unidentified unit is only "slightly smaller" than the second stage of Discoverer VIII.

Air Force Secretary Dudley C. Sharp thought yesterday that the unit was the second stage from one of the five previous launchings of the Discoverer series but none of the others have gone into an orbit anything like this one.

Many officials speculated that the mystery satellite might be a Russian reconnaissance unit that was spying on the United States.

The Russians have denied launching any new satellites.